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10/591,216

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Eran Doran

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EXAMINER

NGUYEN, PHUNG HOANG JOSEPH

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,216	<b>Applicant(s)</b> DORAN ET AL.	
	<b>Examiner</b> PHUNG-HOANG J. NGUYEN	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee et al. (US Pub 2003/0012162) further in view of Wang et al. (US Pat 6,603,761).**

As to claims 1 and 16, Mukherjee teaches a communication apparatus (*figs. 1, and 4*), comprising:

a packet network interface, for coupling to a packet switch in a packet network (*IP network 12 of fig. 3, pars. 0023, 0024 and 0030*).

a telephone network interface, for coupling to a node in a circuit-switched telephone network (*Local Exchange 29 and PSTN 27 of fig. 4, pars. 0023, 0024 and 0037*)

a convergence processor (Radio Network Server 42 of fig. 7), coupled between the packet network (IP network 12) and telephone network interfaces (*telephone network 14 of fig. 1*) and adapted to emulate (*par. 0030*) a mobile switching center (MSC) (*par. 0025 and 0028 shows the MSC 32 of the PLMN network 24*) and a visitor

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location register (VLR) (*VLR 35 of fig. 2*) in the circuit-switched telephone network (*PSTN network 14 of fig. 4.*)

Mukherjee does not explicitly teach assigning telephone numbers in the circuit-switched telephone network to user terminals in the packet network and to connect telephone calls, using the assigned telephone numbers, between telephones in the circuit-switched network and the user terminals.

Wang taught assigning telephone numbers in the circuit-switched telephone network to user terminals (*specifically, col. 6, lines 12-19, 53-58 and col. 8, lines 4-11*) for the purpose of integrating the proper pieces of wireless and wireline networks and secure communication, using IP networks and protocols as an alternative to the existing telephony-based approach (*see Abstract*).

Therefore it would have been obvious to the ordinary skilled artisan at the time of the invention was made to incorporate the teaching of Wang into the teaching of Mukherjee for the purpose of enhancing greater roaming quality for the caller.

As to claims 2 and 17, Mukherjee, in view of Wang, teaches the packet network comprises an Internet Protocol (IP) network (IP network 10 and 12 of fig. 1), and wherein the telephone network (PSTN 14) comprises a cellular telephone network (BTS 28 indicates the cellular network; also PLMN 24); see par. 0024 also see claims 1 and 16 above).

As to claim 3 and 18, Mukherjee does not explicitly teach the convergence processor is adapted to **assign** different, first and second telephone numbers to a given

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user terminal in the packet network, wherein the first telephone number belongs to the cellular telephone network, and the second telephone number belongs to a public switched telephone network (PSTN).

Wang teaches the convergence processor is adapted to assign different, first and second telephone numbers to a given user terminal in the packet network, wherein the first telephone number belongs to the cellular telephone network (col. 3, lines 65-66), and the second telephone number belongs to a public switched telephone network (PSTN) (col. 6, lines 12-19).

As to claims 4 and 19, Mukherjee does not explicitly teach the convergence processor is adapted to assign to the user terminals telephone numbers having a first country code, while the user terminals are located in a country having a different, second country code.

Wang teaches the convergence processor is adapted to assign to the user terminals telephone numbers having a first country code, while the user terminals are located in a country having a different, second country code (col. 1, lines 16- 20, col. 6, lines 12-19).

As to claims 5 and 20, Mukherjee does not explicitly teach the packet network interface comprises a session border controller, which is operative to perform Network Address Translation (NAT). The ordinary skilled artisan should however understand that the NAT is inherently a well known art in the packet network (sometimes referred to

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as network or IP masquerading or a process of modifying network address information) for transmitting the traffic across the networks or devices (*RFC 1918*).

Furthermore, Wang teaches the packet network interface comprises a session border controller, which is operative to perform Network Address Translation (NAT) (*col. 8, lines 4-20 and 44-51*).

As to claim 6, Mukherjee, in view of Wang, teaches the telephone network interface comprises a media gateway (*IP network 12 of fig. 1 has one or more gateways, par. 23*).

As to claim 7, Mukherjee, in view of Wang, teaches a soft-switch, which is coupled between the packet network and telephone network interfaces and the convergence processor so as to convey instructions from the convergence processor to the packet network and telephone network interfaces regarding handling of the telephone calls to and from the user terminals (*par. 28-29 describes the concepts and practice of soft-switch application. As appreciated by the ordinary skilled artisan, soft switch is a simple device installed in the PSTN network (5ESS system) for connecting calls entirely by means of software application*).

As to claim 8, Mukherjee, in view of Wang, does not explicitly teach the soft-switch is adapted to communicate with the packet network and telephone network interfaces by transmitting and receiving at least one of Session Initiation Protocol (SIP) or and SIP for telephones (SIP-T) packets

It is obvious and as appreciated by the ordinary skilled artisan that Mukherjee teaches the use of H.323 protocol (par. 0011, 0023, 0030, 0035, 0038, 0042) transmitting and receiving signals between the IP network 12 and mobile terminal 26. Replacing H.323 with SIP technique is equally acceptable since both protocols are dealing with signal processing designed for the IP networks.

As to claims 9, 14, 22 and 27, Mukherjee, in view of Wang, teaches the convergence processor is adapted to receive registration requests from the user terminals and, in response to the registration requests, to register the user terminals in a home location register (HLR) in the telephone network (*if the terminal is not previously registered, registration message is sent to HLR 33, par. 33*). Furthermore, Mukherjee teaches for routing information with respect to a call placed from the telephone network to a telephone number that is assigned to a user terminal having a network address (*par. 0023*) in the packet network and, responsively to the request, to cause the packet network interface to route the call to the network address of the user terminal (*par. 0028-0029*).

As to claims 10 and 23-24, Mukherjee, in view of Wang, teaches the convergence processor is adapted to communicate with the HLR in order to determine respective service profiles applicable to the user terminals (*emulate wireless infrastructure, par. 0030. Note that the registration process is to build appropriate profile for specific tasks and service, see the entire document*).

As to claims 11-13 and 26, Mukherjee, in view of Wang, teaches the convergence processor is adapted, responsively to the service profile (*note that the registration process is to build appropriate profile for specific tasks and service, see the entire document*)., to invoke an Intelligent Network (IN) (*fig. 1*) service in the telephone network that is to be applied to a call (*emulate wireless infrastructure, par. 30*). Furthermore, Mukherjee, in view of Wang, teaches an indication of a request from one of the user terminals to set up a call (*par. 0029*), and responsively to the indication, to cause the telephone network interface to route the call (*MSC 32 seeking routing information, par. 0028*) to a telephone number in the telephone network in accordance with an applicable service profile (*when registered; also par. 0028-0029*).

As to claims 15 and 28, Mukherjee, in view of Wang, teaches communicating with the HLR using a Mobile Application Protocol (MAP) when adapting the convergence processor and when registering the user terminals (*see par. 0028 and 0033 for the description of registration to the HLR and the standard mobility management procedure or MAP*).

As to claim 21, Mukherjee, in view of Wang, teaches connecting the telephone calls comprises converting media and signaling messages between protocols used respectively in the packet and telephone networks (*A Network Access Controller (NAC) 44 is connected to the Radio Network Server (RNS) 42 and is configured to convert signals between a wireless protocol, GSM for example, and IP protocol, such as H.323, for facilitating transmission of the signals between the IP network 12 and the mobile terminal 26, par. 0042*).



As to claim 25, Mukherjee, in view of Wang, teaches communicating with the HLR comprises determining the respective service profiles initially upon registration, and comprising updating one or more of the service profiles thereafter while the user terminals are in operation (*see fig. 2, registration, e.g., location update procedure is shown*).

### **INQUIRY**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUNG-HOANG J. NGUYEN whose telephone number is (571)270-1949. The examiner can normally be reached on Monday to Thursday, 8:30AM - 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571 272 7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Supervisory Patent Examiner, Art Unit 2614

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Examiner, Art Unit 2614